

NOTES ON THE NOMENCLATURE OF CORNUS¹

I. K. FERGUSON

DURING THE PREPARATION of an account of the Cornaceae for a generic flora of the southeastern United States it was found that the genus *Cornus* has been delimited in different ways by various workers, some accepting the genus in a broad sense and dividing it into subgenera and sections, others segregating these groups as distinct genera. As a result of these quite varied taxonomic treatments the nomenclature of the sections, subgenera, and segregate genera has become very confused. The purpose of this paper was to try to find the correct names at different ranks for the various categories that have been recognized and to bring these names together with some of their relevant synonymy.

The characters used by most workers for subdividing *Cornus* are mainly those of the inflorescence, and there appears to be little other supporting evidence. These characters do not seem to be sufficient for recognizing segregate genera, and in this work the subdivisions of *Cornus* are treated as subgenera. No taxonomic revision is proposed here, and the treatment of Wangerin (Pflanzenreich IV. 229 (Heft 41). 1910), who recognized seven subgenera within *Cornus*, is closely followed. However, *C. alternifolia* L. and *C. controversa* Hemsl., with alternate leaves and pitted stones, are separated as an additional subgenus, *Mesomora* Raf.

The genus *Cornus* as established by Linnaeus comprised five species: *C. mas*, *C. suecica*, *C. canadensis*, *C. sanguinea*, and *C. florida*. Hill (Brit. Herbal 331. 1756) established the genus *Chamaepericlymenum*, and, though he did not describe any species, he refers to only one, *Cornus suecica* L. *Chamaepericlymenum* must be based on this species. Some recent workers, including Warburg (in Clapham, Tutin & Warburg, Fl. Brit. Isles, ed. 2. 493. 1962) and Pojarkova (in Komarov, Fl. URSS 17: 324. 1951), maintain this genus for the herbaceous species of *Cornus*.

Dumortier (Florula Belgica 83. 1827) recognized two sections in *Cornus*: *Thelycrania*, based on *C. alba* L. and *C. sanguinea* L., and *Cornotypus*, based on *Cornus* "nudiflora = Mas, L." This latter division may be considered as effectively typifying the genus.

In 1830, Lindley (Nat. Syst. Bot., ed. 1. 241) mentioned *Benthamia* incidentally and without a description as a genus in the Boraginaceae. Later (Bot. Reg. tab. 1579. 1833) he formally established *Benthamia*,

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based on *Cornus capitata* Wall., as a genus in the Cornaceae. Unfortunately, this name had been validly published in 1828 by Richard as the name for a genus of orchids. *Benthamia* Lindl. is thus a later homonym.

Later, Rafinesque (Alsograph. Am. 58. 1838) recognized a number of categories within *Cornus*. The status of some of these has been discussed by various workers (O. A. Farwell, *Rhodora* 34: 29, 30. 1932, and *Torreya* 42: 130. 1942; H. W. Rickett, *Torreya* 42: 11-14, 131. 1942), but without agreement. Rafinesque, on page 58 of his *Alsographia*, recognizes a genus *Cornus* with a typical element, *Cornus*, and two subgenera, *Mesomora*² and *Kraniopsis*. Under the typical element he includes "most of the American species," as well as *C. sanguinea* and *C. alba*. *Mesomora* includes only *C. alternifolia*, and in *Kraniopsis* Rafinesque places *C. paniculata* L'Hér. (= *C. racemosa* Lam.) and *C. comosa* Raf. On the following page he lists three further categories without clearly designating their rank: *Eukrania*, with *C. mas*, *C. canadensis*, and *C. suecica*; *Cynoxylon*, comprised of *C. florida*; and *Benthamia* Lindl. The names *Mesomora* and *Kraniopsis* must clearly be adopted for subgenera, while it appears that *Eukrania*, *Cynoxylon*, and *Benthamia* may be considered to be genera or subgenera.

The evidence available suggests that *Eukrania* should be regarded as a subgenus because, in the account of a new species following his description of *Eukrania*, Rafinesque makes no combinations under *Eukrania* but refers to "*Cornus (Eukrania) cyananthus* Raf.," commenting that it is "a very curious herbaceous *Cornus* very near to *C. canadensis*." Since he included *Cornus mas*, the type of Dumortier's section *Cornotypus*, in *Eukrania*, this name must be treated as a synonym of the typical subgenus.

On the other hand, *Benthamia* Lindl. would appear to have been intended to be a distinct genus, for Rafinesque cites his own earlier work, *Sylva Telluriana* (1836), under *Benthamia*, and in this work he clearly refers to *Benthamia* Lindl. as a genus and also to his "subgen. *Cynoxylon* of Med. Fl. of 1828." This latter statement illustrates the uncertainty surrounding the rank of *Cynoxylon*, since Rafinesque had clearly applied this name to a section of *Cornus* in the *Medical Flora* (1828). However, there does not seem to be any evidence to indicate that he intended *Cynoxylon* to be a distinct genus, and for this reason it is accepted as a subgeneric name here. Merrill (*Index Rafinesquianus* 184. 1949) has indicated that Rafinesque recognized *Cynoxylon* as a subgenus of *Cornus* and *Eukrania* as a separate genus, but the reasons for this treatment are quite obscure.

² Rafinesque (Alsograph. Am. 58. 1838) in his formal description of subgenera uses the spelling "*Mesomera*," but later, in his discussion on page 62, he refers to "*Mesomora*" and "the *Mesomoras*." Rudbeck (*Acta Lit. Suec.* 1: 98. 1720) proposed the name *Mesomora* for the plant that was later known as *Cornus suecica* L. *Mesomora* is derived from the Greek, *mesos*, middle, and *maurus*, dark, in allusion to the dark-colored flowers in the middle of the white involucre. Linnaeus (*Fl. Laponica* 36. 1737, and *Fl. Suecica* 48. 1755) cites *Mesomora* in his synonymy of *Cornus suecica*, and he uses the epithet in *Philosophia Botanica* (201, 202. 1763) for an informal category in *Cornus*. It seems that Rafinesque's spelling "*Mesomera*" should be considered a typographical error.

Opiz (in Berchtold & Opiz, Oekon.-tech. Fl. Böhmens 2: 174–180. 1838) segregated *Cornus alba* and *C. sanguinea* as a separate genus *Swida*.³ Some later authors (e.g., Pojarkova, Not. Syst. Leningrad 12: 170. 1950), overlooking this valid publication, have considered *Swida* Opiz as a nomen nudum, citing the place of publication as *Seznam Rostlin Kveteny Ceské* (1852), where the name is mentioned without description.

The next author to add to the confusion was Endlicher (Gen. Pl. 798. March, 1839), who recognized three categories of undesignated rank in *Cornus*: a. *Arctocrania*, b. *Tanycrania*, and c. *Thelycrania*. Since Endlicher makes no statement either in the preface or elsewhere as to what he intended these subdivisions to be, they cannot be taken into consideration. Later in the same year, Spach (Hist. Nat. Vég. 8. October, 1939) described three sections in *Cornus* (*Macrocarpium*, *Microcarpium*, and *Cornion*) and segregated *Cornus florida* as the genus *Benthamidia*. *Cornion* Spach is the earliest sectional name for the herbaceous species of *Cornus*. Two years later, Reichenbach (Repert. Herb. 143. 1841) validated Endlicher's *Tanycrania* and *Arctocrania* as subgenera, while still later, Ledebour (Fl. Rossica 2: 377, 378. 1844) validated *Arctocrania* and *Tanycrania* as sections. *Thelycrania*, originally published by Dumortier as a section (1827), was raised to generic rank by Fourreau (Ann. Soc. Linn. Lyon II. 16: 394. 1868), who cited only one species, *T. sanguinea*. He thus selected a lectotype for both the section and the genus. As a genus, however, *Thelycrania* is antedated by *Swida* Opiz. Schneider (Illus. Handb. Laubholz. 2: 437. 1909) attributed subg. *Thelycrania* to Endlicher and subg. *Benthamidia* to K. Koch, but neither author treated these as formal categories. Instead, Schneider, himself, appears to be the first author to validate the names at the rank of subgenus.

Harms (Nat. Pflanzenfam. III. 8: 266. 1898) described the African *Cornus Volkensii* and placed it in a separate section *Afrocrania*. At the same time, he also segregated the Mexican *C. disciflora* and *C. grandis* as sect. *Discocrania*. Wangerin (Pflanzenreich IV. 229 (Heft 41). 1910) later raised both to subgeneric rank, and Hutchinson (Ann. Bot. II. 6: 89. 1942) treated *Afrocrania* as a genus.

In 1906, Rydberg (Bull. Torrey Bot. Club 33: 147) proposed the generic name *Cornella* for the herbaceous species of *Cornus*, but this is a superfluous name for *Chamaepericlymenum* Hill. Nakai later (Bot. Mag. Tokyo 23: 39. 1909) raised *Arctocrania* Endl. to generic rank, providing

³ Various spellings have been used for the generic name *Swida*. The author of the name, Opiz (in Berchtold & Opiz, Oekon.-tech. Fl. Böhmens 2: 174–180. 1838), used *Swjda*, but later he changed the spelling to *Svjda* (Opiz, Seznam Rostlin Kveteny Ceské 94. 1852). Small (Fl. SE. U. S. 853. 1903) and other authors have used the form *Svida*. The name is derived from the Czech common name for *Cornus sanguinea*, and the differences in spelling are probably attributable to old and modern usage of that language. Following the International Code, the original spelling, *Swjda*, is the form which must be retained. However, Art. 73. Note 6 of the Code states, "The letters 'j' and 'v' must be changed to 'i' and 'u' respectively when they represent vowels." It is proposed that *Swjda* be changed to *Swida* which makes pronunciation easier.

yet another synonym for the same group of herbaceous species. He also raised sect. *Macrocarpium* Spach to generic rank, restricting *Cornus* to the species of Dumortier's section *Thelycrania*, in direct contradiction of Dumortier's typification of *Cornus*.

Adding still further to the already formidable nomenclatural problems, Nieuwland & Lunell (Am. Midl. Nat. 4: 487. 1916) adopted two new names for segregate genera of *Cornus*, attributing both to pre-Linnaean authors without giving descriptions for either genus, a practice neither outlawed nor recommended by the International Code. These authors recognize the genus *Mesomora* [Rudbeck] Nieuwland & Lunell, which they apply to *Cornus canadensis* L., as still another synonym for *Chamaepericlymenum* Hill. Under *Ossea* Lonicer, both a pre-Linnaean and a post-Linnaean reference are given. The post-Linnaean reference (Adams Lonicer's Völlständiges Kräuter-Buch, B. Ehrhart, ed., with indices by P. Uffenbach. 1783) is an unaltered reprinting of earlier editions of Lonicer, but there is also an *Anhang* by Ehrhart, published in the same year, in which he comments (p. 23) under *Ossea*, "Dieses Gewächses rechter lateinischer Name is nur gar zu wohl bekannt, nemlich *Cornus foemina*, oder *Virga sanguinea*." Thus it seems that Ehrhart cannot be considered to have accepted *Ossea*. Since the International Code states "a name is not validly published when it is not accepted by the author who published it," Lonicer's work (1783) cannot be taken as a place of valid publication of the genus *Ossea*. It must be then attributed to Nieuwland and Lunell (1916). However, Lonicer's description and illustrations are inadequate and do not seem to refer clearly to any species of *Cornus*, no references are cited, and, as a result, the validity of the name seems doubtful. In the sense of Nieuwland & Lunell, *Ossea* is a synonym of the genus *Swida* Opiz.

Other historical items and nomenclatural combinations will be evident from the summary of the nomenclature of the eight subgenera given below. In order to fix the application of the names involved, the type or lectotype species is given for each name. When lectotype species are cited without an author these have been selected here.

Cornus Linnaeus, Sp. Pl. 1: 117. 1753; Gen. Pl. ed. 5. 1754. (Lectotype species: *C. mas* L.; see Dumortier, Florula Belgica 83. 1827, and P. A. Rydberg, Bull. Torrey Bot. Club 33: 147. 1906.)

Cornus subg. **Kraniopsis** Rafinesque, Alsograph. Am. 58. 1838. (Lectotype species: *C. paniculata* L'Héritier = *C. racemosa* Lamarck.)

Cornus subg. *Cornus* Rafinesque, *ibid.* (Lectotype species: *C. sanguinea* L.)

Cornus sect. *Thelycrania* Dumortier, Florula Belgica 83. 1827. (Lectotype species: *C. sanguinea* L.; see Fourreau, Ann. Soc. Linn. Lyon II. 16: 394. 1868.)

Cornus c. *Thelycrania* Endlicher, Gen. Pl. 798. March, 1839.

Thelycrania (Dumortier) Fourreau, Ann. Soc. Linn. Lyon II. 16: 394. 1868. (Lectotype species: *T. sanguinea* (L.) Fourreau.)

Cornus subg. *Thelycrania* (Dumortier) Endlicher ex Schneider, Illus. Handb. Laubholz. 2: 437. 1909.

Cornus sect. *Microcarpium* Spach, Hist. Nat. Vég. 8: 92. 1839. (Lectotype species: *C. sanguinea* L.)

Cornus subsect. *Amblycaryum* Koehne, Gartenflora 45: 286. 1896. (Lectotype species: *C. corynostylis* Koehne.)

Cornus sect. *Amblycaryum* (Koehne) Nakai, Bot. Mag. Tokyo 23: 37. 1909.

Swida Opiz in Berchtold & Opiz, Oekon.-tech. Fl. Böhmens 2: 174-180. 1838, "Swjda." (Lectotype species: *S. sanguinea* (L.) Opiz.)

Ossea [Lonicer] Nieuwland & Lunell in Lunell, Am. Midl. Nat. 4: 487. 1916.

(Type species: *O. instolonea* (A. Nelson) Nieuwland & Lunell in Lunell, Am. Midl. Nat. 4: 487. 1916.)

Cornus* subg. *Mesomora Rafinesque, Alsograph. Am. 58. 1838. (Type species: *C. alternifolia* L.)

Cornus sect. *Mesomora* (Rafinesque) Nakai, Fl. Sylv. Koreana 16: 81. 1927.

Cornus sect. *Microcarpium* subsect. *Bothrocaryum* Koehne, Gartenflora 45: 285. 1896. (Lectotype species: *C. macrophylla* Wallich sensu Koehne = *C. controversa* Hemsley; see Pojarkova, Not. Syst. Leningrad 12: 169. 1950.)

Cornus sect. *Bothrocaryum* (Koehne) Harms ex Nakai, Bot. Mag. Tokyo 23: 36. 1909, "Brothrocaryum."

Bothrocaryum (Koehne) Pojarkova, Not. Syst. Leningrad 12: 169. 1950. (Type species: *B. controversum* (Hemsley) Pojarkova.)

Cornus* subg. *Afrocrania (Harms) Wangerin, Pflanzenreich IV. 229 (Heft 41): 76. 1910.

Cornus sect. *Afrocrania* Harms, Nat. Pflanzenfam. III. 8: 266. 1898. (Type species: *C. Volkensii* Harms.)

Afrocrania (Harms) Hutchinson, Ann. Bot. II. 6: 89. 1942. (Type species: *A. Volkensii* (Harms) Hutchinson.)

***Cornus* subg. *Cornus*.**

Cornus sect. *Cornotypus* Dumortier, Florula Belgica 83. 1827. (Type species: *C. nudiflora* Dumortier, nomen superfluum = *C. mas* L.)

Cornus subg. *Eukrania* Rafinesque, Alsograph. Am. 59. 1838. (Lectotype species: *C. mas* L.)

Cornus b. *Tanycrania* Endlicher, Gen. Pl. 798. March, 1839.

Cornus subg. *Tanycrania* Endlicher ex Reichenbach, Repert. Herb. 143. 1841. (Type species: *C. mas* L.; see Endlicher.)

Cornus sect. *Tanycrania* (Endlicher ex Reichenbach) Ledebour, Fl. Rossica 2: 378. 1844.

Cornus sect. *Macrocarpium* Spach, Hist. Nat. Vég. 8: 101. October, 1839. (Type species: *C. mascula* L. = *C. mas* L.)

Cornus subg. *Macrocarpium* (Spach) Schneider, Illus. Handb. Laubholz. 2: 450. 1909.

Macrocarpium (Spach) Nakai, Bot. Mag. Tokyo 23: 38. 1909. (Type species: *M. mas* (L.) Nakai.)

Cornus* subg. *Arctocrania Endlicher ex Reichenbach, Repert. Herb. 143. 1841. (Lectotype species: *C. suecica* L.)

Cornus a. *Arctocrania* Endlicher, Gen. Pl. 798. March, 1839.

- Cornus* sect. *Arctocrania* (Endlicher ex Reichenbach) Ledebour, Fl. Rossica 2: 377. 1844, "*Orctocrania*."
- Arctocrania* (Endlicher ex Reichenbach) Nakai, Bot. Mag. Tokyo 23: 39. 1909. (Lectotype species: *A. suecica* (L.) Nakai.)
- Chamaepericlymenum* Hill, Brit. Herb. 331. 1756. (Type species: *Cornus suecica* L. = *Chamaepericlymenum suecicum* (L.) Graebner.)
- Cornus* sect. *Cornion* Spach, Hist. Nat. Vég. 8: 103. October, 1839. (Lectotype species: *C. suecica* L.)
- Cornella* Rydberg, Bull. Torrey Bot. Club 33: 147. 1906. (Lectotype species: *Cornella suecica* (L.) Rydberg.)
- Mesomora* [Rudbeck] Nieuwland & Lunell in Lunell, Am. Midl. Nat. 4: 487. 1916. (Type species: *M. canadensis* (L.) Nieuwland ex Lunell.)
- Cornus* subg. *Discocrania* (Harms) Wangerin, Pflanzenreich IV. 229 (Heft 41): 84. 1910.**
- Cornus* sect. *Discocrania* Harms, Nat. Pflanzenfam. III. 8: 266. 1898. (Lectotype species: *C. disciflora* Mociño & Sessé ex De Candolle.)
- Cornus* subg. *Cynoxylon* (Rafinesque) Rafinesque, Alsograph. Am. 59. 1838.**
- Cornus* sect. *Cynoxylon* Rafinesque, Med. Fl. 132. 1828. (Type species: *C. florida* L.)
- Cynoxylon* (Rafinesque) Small, Fl. SE. U. S. 854. 1903. (Type species: *Cynoxylon floridum* (L.) Small.)
- Cornus* b. *Tanycrania* Endlicher, Gen. Pl. 798. 1839.
- Cornus* subg. *Tanycrania* Endlicher ex Reichenbach, Repert. Herb. 143. 1841. (Type species: *C. florida* L.; see Endlicher.)
- Benthamidia* Spach, Hist. Nat. Vég. 8: 92. 1839. (Type species: *B. florida* (L.) Spach.)
- Cornus* Gruppe *Benthamidia* (Spach) K. Koch, Dendrologie 1: 694. 1869.
- Cornus* subg. *Benthamidia* (Spach) K. Koch ex Schneider, Illus. Handb. Laubholz. 2: 453. 1909. (Type species: *C. florida* L.)
- Cornus* subg. *Benthamia* (C. B. Clarke) Schneider, Illus. Handb. Laubholz. 2: 454. 1909.**
- Cornus* sect. *Benthamia* C. B. Clarke in Hooker f. Fl. Brit. India 2: 745. 1879. (Lectotype species: *C. capitata* Wallich in Roxburgh.)
- Benthamia* Lindley, Bot. Reg. 19: tab. 1579. 1833, not *Benthamia* Richard, Mém. Soc. Hist. Nat. Paris 4: 37. 1828. (Type species: *B. fragifera* Lindley = *Cornus capitata* Wallich in Roxburgh.)
- Dendrobenthamia* Hutchinson, Ann. Bot. II. 6: 92. 1942. (Type species: *D. capitata* (Wallich) Hutchinson.)

ARNOLD ARBORETUM
HARVARD UNIVERSITY

Present address:
FLORA EUROPAEA RESEARCH PROJECT
THE UNIVERSITY
LIVERPOOL, ENGLAND